

## CLAIMS

1. A porous aluminum fluoride on which  $\text{SbCl}_x\text{F}_{5-x}$  (wherein  $x$  represents a numeral of 0 to 5) is supported.

2. A process for producing the porous aluminum fluoride according to claim 1, which comprises supporting  $\text{SbCl}_y\text{F}_{5-y}$  (wherein  $y$  represents a numeral of 0 to 5) on a porous aluminum fluoride and treating it with hydrogen fluoride.

3. A fluorination catalyst comprising the porous aluminum fluoride according to claim 1.

4. A fluorinating agent comprising the porous aluminum fluoride according to claim 1.

5. A dehalogenating agent comprising the porous aluminum fluoride according to claim 1.

6. A process for producing a fluoro compound represented by the formula (2):  $\text{R}^1\text{R}^2\text{R}^3\text{CF}$  (wherein  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  each represents hydrogen, a halogen, an alkyl group which may be substituted with a halogen or an ether group, or an alkoxy group; or  $\text{R}^1$ ,  $\text{R}^2$ , and  $\text{R}^3$  may be combined with each other to form a ring), which comprises reacting a compound represented by the formula (1):  $\text{R}^1\text{R}^2\text{R}^3\text{CX}$  (wherein  $\text{R}^1$ ,  $\text{R}^2$ , and  $\text{R}^3$  have the same meanings as described above; and  $\text{X}$  represents chlorine, bromine, or iodine) with hydrogen fluoride in the presence of the catalyst according to claim 3.

7. A process for producing a fluoro compound represented by the formula (2):  $R^1R^2R^3CF$  (wherein  $R^1$ ,  $R^2$  and  $R^3$  have the same meanings as described above), which comprises reacting a compound represented by the formula (1):  $R^1R^2R^3CX$  (wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $X$  have the same meanings as described above) with the fluorinating agent according to claim 4.

8. A process for producing an ester represented by the formula (4):  $R^1CH_2O(CO)R^2$  (wherein  $R^1$  represents hydrogen or an alkyl group which may be substituted with a halogen; and  $R^2$  represents hydrogen or an alkyl group which may be substituted with a halogen), which comprises reacting an ether compound represented by the formula (3):  $R^1CH_2OCXYR^2$  (wherein  $R^1$  and  $R^2$  have the same meanings as described above;  $X$  represents fluorine or chlorine; and  $Y$  represents fluorine or chlorine) with the dehalogenating agent according to claim 5.